

ART. XI. REMARKS ON A SKULL CAP OF THE
GENUS TROÖDON

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An incomplete skull in the paleontological collections of the Carnegie Museum is of interest in being the second recognizable specimen found of *Troödon wyomingensis* Gilmore.¹

Since the entire top of the thickened skull cap is preserved, much of which was missing in the type, it contributes to a better understanding of this curious, but little known dinosaur.

This specimen was collected by the late W. H. Utterbeck, but unfortunately it is without data as to exact locality, though presumably from the Lance formation in Wyoming. It consists of the greater portion of the dome-like part of the skull, see fig. 1, and displays for the first time the precise shape of the top of the head in this species.

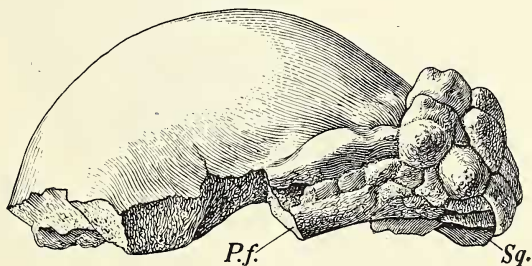


FIG. 1. Skull of *Troödon wyomingensis* Gilmore, Cat. No. 3180 C. M. Viewed from the left side, P.f., postfrontal; Sq, squamosal. One-fourth natural size.

The occipital border, and also the left side anterior to the top of the infratemporal fossa, is essentially complete. Anteriorly, immediately

¹Gilmore, Charles W., Proc. U. S. Nat. Mus., vol. 79, 1931, Art. 9, pp. 1-4.

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posterior to the junction of the frontals with the nasal bones, the skull is abruptly broken.

The specimen differs from the type, with which it has been directly compared, in being a fourth smaller, in having a more ornate ornamentation and a narrower median emargination of the occipital border. In all other respects insofar as these specimens can be compared they are in full accord. For the present, therefore, it seems safe to refer it to *T. wyomingensis*.

The profile of the dome confirms the correctness of the restoration of the missing parts of the type as originally published. The dome surface throughout its whole area is smooth, being devoid of the foramina and markings that characterize the *Troödon validus* skulls.

Viewed from above, see fig. 2, the posterior border is truncate with a narrow median emargination devoid of ornamentation. The supra-

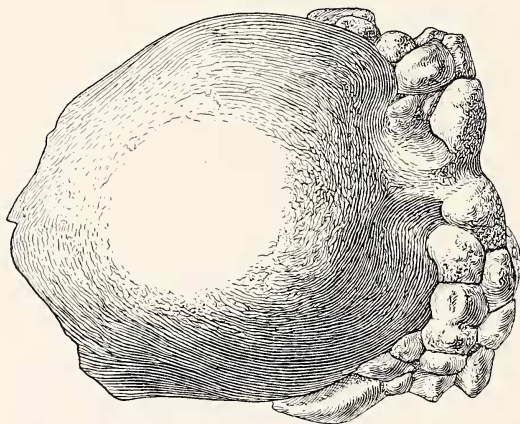


FIG. 2. Skull of *Troödon wyomingensis* Gilmore, Cat. No. 3180 C. M. Viewed from above. One-fourth natural size.

temporal fossæ as in the type specimen are entirely roofed over by bone. On either side of the smooth emarginated median area, are three parallel transverse rows of rounded node-like protuberances. These nodes alternate in the three rows and form an ornate sculpture for this portion of the skull. The tops of the most inferior row, however, are flattened and they lie principally upon the inner branch of the squamosal, almost hiding it from a posterior view, see fig. 1.

On the left side a portion of the coalesced postfrontal and squamosal

bones have their surfaces ornamented by low bosses and lines marking out scutal areas.

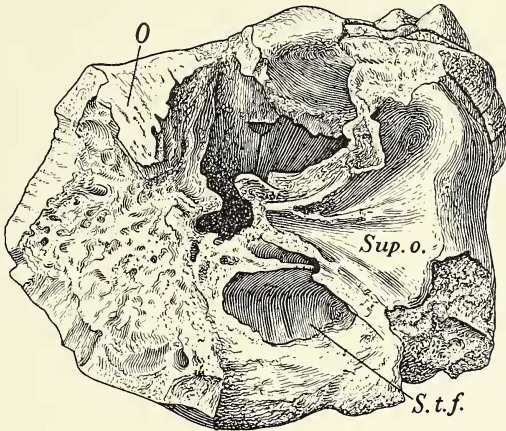


FIG. 3. Skull of *Troödon wyomingensis* Gilmore. Cat. No. 3180 C. M. Viewed from below. *O*, orbital surface; *S.t.f.*, supratemporal fossa; *Sup.o.*, supra-occipital. One-fourth natural size.

The ventral view is more broken and less complete than the type, and for that reason contributes nothing to our further knowledge of the structural details of this portion of the skull.

COMPARATIVE MEASUREMENTS

	No. 3180	
	C. M.	Type U. S. N. M.
Greatest width of skull across the squamosals.	240	310
Distance from center of orbital roof to rear of skull.	190	244
Greatest width of dome mass.	204	275
Greatest ventral thickness, about.	125	180

The skull cap is all that is known of the skeletal structure of *Troödon wyomingensis*.

In 1924, I published² a description of a partial skeleton of the very much smaller *Troödon validus* (Lambe) and at that time a preliminary skeletal restoration was attempted. It was referred to the new family Troödontidæ, which in turn was assigned to the Ornithopodous

²Gilmore, Charles W., Bull. No. 1, University of Alberta, 1924, pp. 5-43, pls. 1-14.

dinosauria. This disposition of the animal aroused strong criticism, especially from the late Baron Franz Nopcsa,³ who at first contended that it pertained to the armored dinosauria and later adopted the more radical hypothesis that the skeleton was a composite, consisting of the skull of an armored dinosaur, the skeleton of an unnamed ornithopod, and some fish bones that formed the abdominal cuirass.

Russell⁴ has made a full and adequate reply to these criticisms, in which he gives support to Gilmore's original contentions.

After a lapse of more than ten years I am still of the opinion these materials were properly associated and properly classified. Mr. George F. Sternberg who collected the specimen assures me that all of the bones attributed to this skeleton were found in close association within a small area of comparatively barren strata. It seems most improbable, as pointed out by Russell, "that the skull of one animal, the partial skeleton of another, and some fish bones" should have been collected within this small area." There was no duplication of parts, and the proportionate size of skull to skeleton was in harmony.

Only by the discovery of supplemental and more complete materials can the questions raised be settled for all time, and it is therefore with great interest that we await the discovery of more complete specimens of *Troödon*, which will disclose the structural peculiarities of this interesting dinosaur.

³Nopcsa, F., *Geol. Hungarica*, Ser. Pal. fasc. 4, 1929, pp. 64, 65; *Ann. and Mag. Nat. Hist.*, 1931, Ser. 10, vol. VIII, pp. 70-72.

⁴Russell, L. S., *Annals and Magazine of Nat. History*, 1932, Ser. 10, vol. IX, p. 334.